Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A process for regulating voltage applied by a voltage regulator to an integrated circuit, comprising ~~the steps of~~:

measuring instantaneous power consumption inside of the integrated circuit; and

regulating said voltage according to the measured instantaneous power.

2. (currently amended) The process of claim 1, wherein the integrated circuit comprises at least two units and wherein ~~the step of~~ measuring comprises:

sensing power consumption in at least two of said units, and

computing instantaneous power consumption inside of the integrated circuit according to the sensed power consumption in said units.

3. (currently amended) The process of claim 2, wherein ~~the step of~~ sensing power consumption in a unit comprises detecting state changes in signals output by said unit.

4. (currently amended) The process of claim 2, wherein ~~the step of~~ computing comprises:

weighting the power consumption sensed in said units; and

adding the weight power consumption of said units.

5. (currently amended) The process of claim 1, wherein ~~said step of~~ regulating comprises:

computing the derivative with respect to time of the measured instantaneous power, and

regulating said voltage according to said computed derivative.

6. (previously presented) An integrated circuit comprising at least one unit provided with a plurality of sensors for measuring power consumption and a power calculation unit for receiving the power consumption measured by each of said sensors and computing a power consumption for the circuit.

7. (Original) The circuit of claim 6, wherein said power calculation unit computes power consumption for the circuit by weighting the power consumption measured by each of said sensors with weights; and by adding the weighted power consumption, and wherein the weights are stored in said integrated circuits.

8. (previously presented) The circuit of claim 6, wherein said sensor detects state change in signals output by said unit.

9. (previously presented) A combination of a circuit according to claim 6 with a voltage regulator, said voltage regulator being connected to said circuit and receiving the power consumption computed by power calculation unit.

10. (currently amended) The process of claim 3, wherein ~~the step of~~ computing comprises:

weighting the power consumption sensed in said units; and

adding the weight power consumption of said units.

11. (currently amended) The process of claim 2, wherein ~~said step of~~ regulating comprises:

computing the derivative with respect to time of the measured instantaneous power, and

regulating said voltage according to said computed derivative.

12. (currently amended) The process of claim 3, wherein ~~said step of~~ regulating comprises:

computing the derivative with respect to time of the measured instantaneous power, and

regulating said voltage according to said computed derivative.

13. (currently amended) The process of claim 4, wherein ~~said step of~~ regulating comprises:

computing the derivative with respect to time of the measured instantaneous power, and

regulating said voltage according to said computed derivative.

14. (previously presented) The circuit of claim 7, wherein said sensor detects state change in signals output by said unit.

15. (currently amended) A combination of a circuit according to claim 7 ~~with~~ further comprising a voltage regulator, said voltage regulator being connected to said circuit and receiving the power consumption computed by power calculation unit.

16. (currently amended) A combination of a circuit according to claim 8 ~~with~~ further comprising a voltage regulator, said

voltage regulator being connected to said circuit and receiving the power consumption computed by power calculation unit.

17. (previously presented) In combination, an integrated circuit having at least one sensor for sensing instantaneous power consumption by said integrated circuit and a power supply delivering current within a voltage range to said integrated circuit, the power supply being at least partially responsive to an increase in instantaneous power sensed inside the integrated circuit for increasing voltage supplied thereby before additional power is provided by the power supply to said integrated circuit in response to an increase in demand for current by said integrated circuit.

18. (previously presented) The combination of claim 17 wherein the instantaneous power sensed inside the integrated circuit is sensed by a plurality of sensors inside the integrated circuit and a power calculation unit coupled to the plurality of sensors.

19. (previously presented) The combination of claim 18 wherein:

(i) said power calculation unit computes power consumption for the circuit by weighting the power consumption measured by each of said sensors with weights and by adding the weighted power consumption; and

(ii) the weights are stored in said integrated circuits.

20. (previously presented) A process for regulating a voltage applied by a voltage regulator to an integrated circuit, the voltage regulator being responsive to a drive signal for

controlling the voltage, the process comprising:

measuring instantaneous power consumption inside the integrated circuit; and

adjusting the drive signal regulating said voltage according to the measured instantaneous power prior to the integrated circuit demanding additional current from said voltage regulator.

21. (previously presented) The process of claim 20 wherein the integrated circuit has an internal inductance which initially supplies power in response to an increase in the instantaneous power consumed inside the integrated circuit before additional power is provided by the voltage regulator.